

APRIL 11, 1989

TEST REPORT # 030

CONTACT RESISTANCE, GOLD THICKNESS,  
NORMAL FORCE, AND INSERTION /WITHDRAWAL  
AS A FUNCTION OF BOARD INSERTION

SULLINS SALES DEPARTMENT

APPROVED BY : NOP BOONSUE  
ENGINEERING AND QUALITY ASSURANCE MANAGER  
SULLINS ELECTRONICS CORPORATION



*Sullins Electronics Corp.*

801 E. Mission Rd.  
San Marcos, Ca. 92069

## **SCOPE**

To perform contact resistance, gold thickness, and insertion / withdrawal testing on the edge card connectors as manufactured by Sullins Electronics Corporation and submitted by the test sponsor, Sullins Electronics Sales Department.

## **TEST SAMPLES AND PREPARATION**

1. The following samples were submitted by the manufacturer, Sullins Electronics, for evaluation by Sullins Test Laboratories.

| <b><u>Quantity</u></b> | <b><u>Part Number</u></b> | <b><u>Lot Code</u></b> |
|------------------------|---------------------------|------------------------|
| <b>1</b>               | <b>EMA28DRSN</b>          | <b>CTCN</b>            |

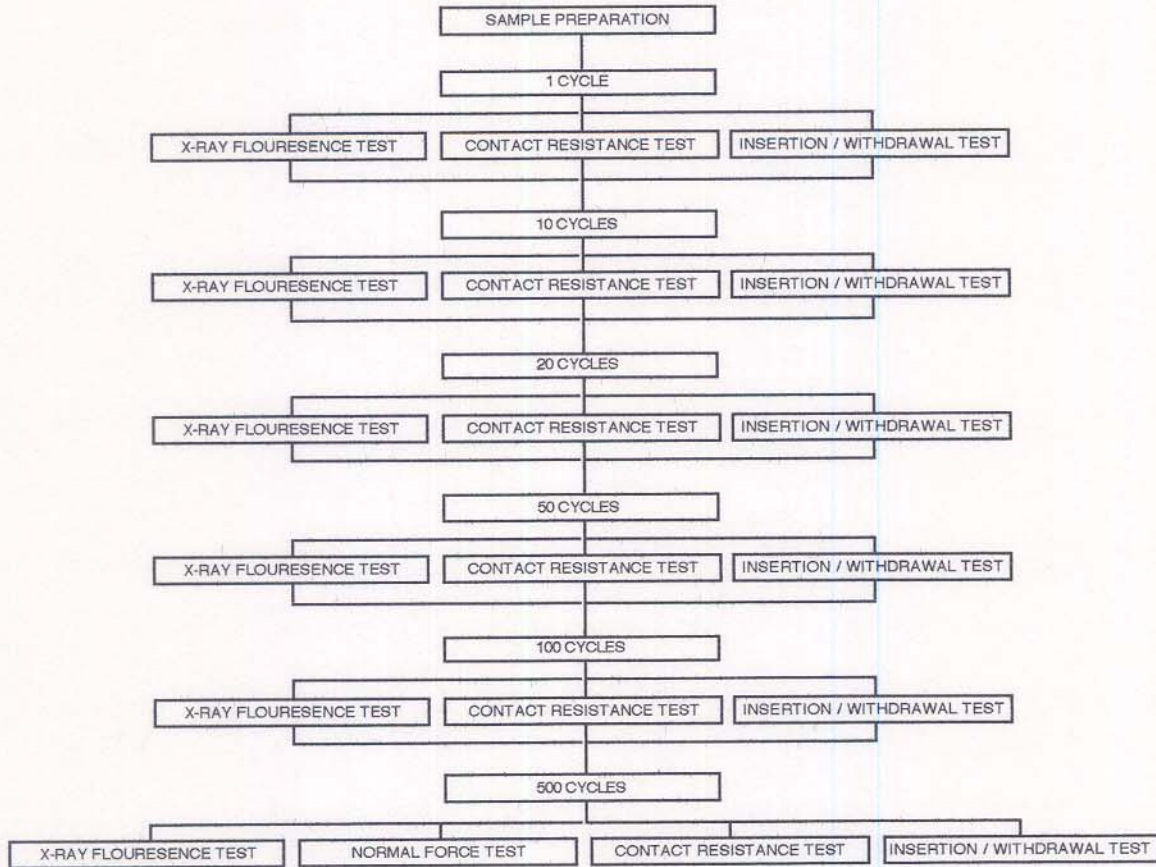
2. Unless otherwise indicated, all materials were certified by the manufacturer to be in accordance with the applicable product specification.
3. Applicable edge cards were obtained by Sullins Test Labs and prepared accordingly.
4. These edgeboards were manufactured in the form of standard .062" thick boards with an outer plating of gold on the contact pads.
5. The test samples and edge cards had wires soldered to the appropriate terminations or contact pads.
6. The test samples were cycled with a .062" steel test blade to the number of cycles desired and then tested.
7. The first test consisted of having current run through the contact point and measuring the voltage drop at the specified intervals.
8. The second test consisted of having the gold thickness tested at the specified intervals.
9. The third test consisted of having the insertion and withdrawal forces tested at the specified intervals.
10. The fourth test consists of having the normal force tested at the end of the 500 insertions



*Sullins Electronics Corp.*

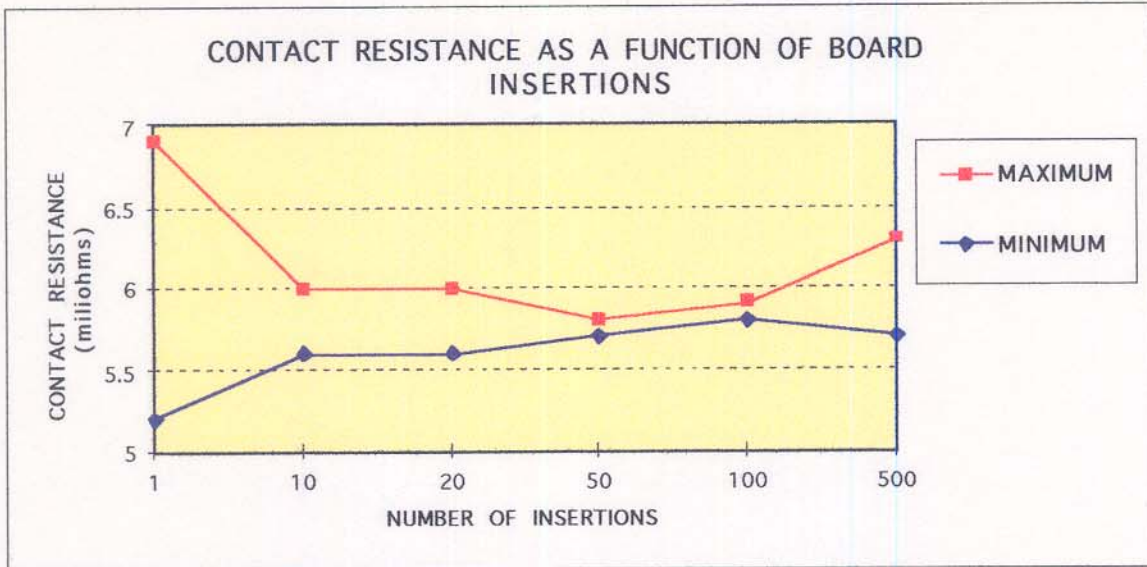
801 E. Mission Rd.  
San Marcos, Ca. 92069

**ETR # 030 TEST LAYOUT**

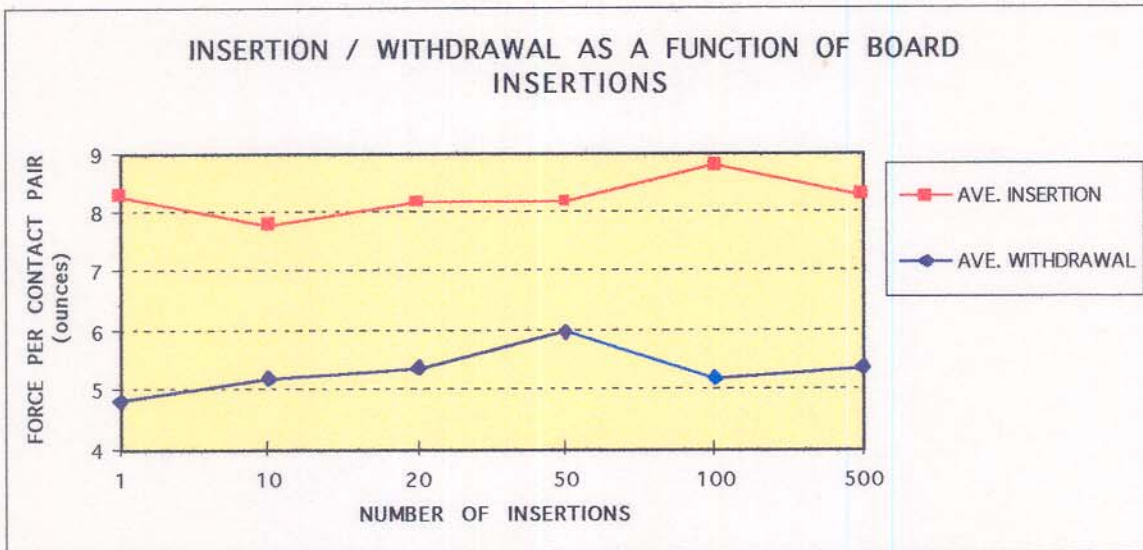


*Sullins Electronics Corp.*

801 E. Mission Rd.  
San Marcos, Ca. 92069



\*\* CONTACT RESISTANCE MEASURED ON CONTACT NUMBERS 3, 4, 29, 30, 53 AND 54.

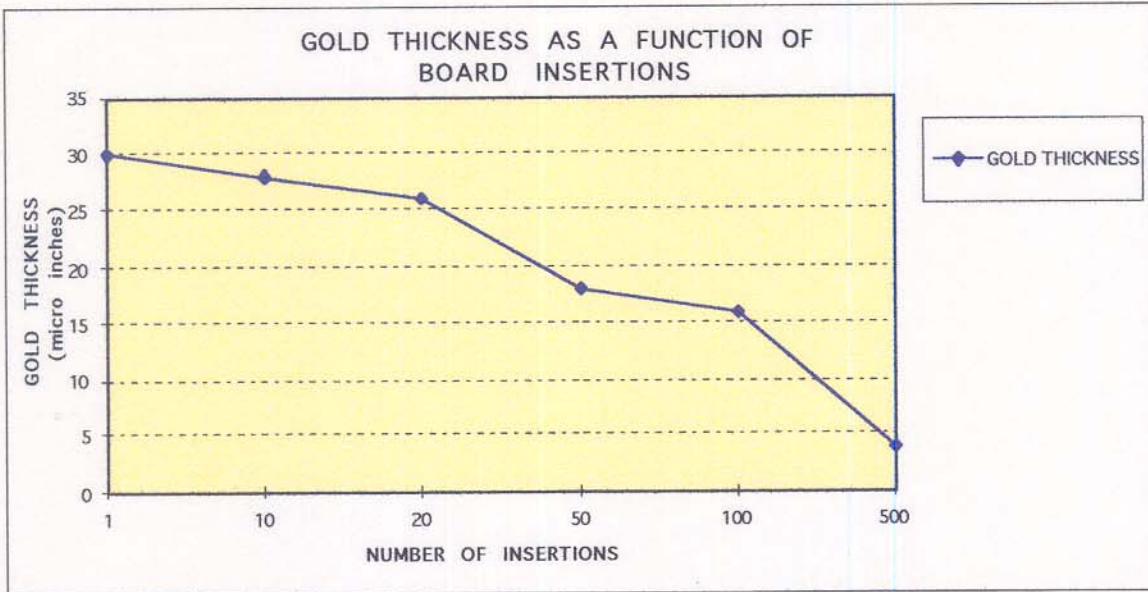


\*\* INSERTION / WITHDRAWAL MEASURED ON CONTACT NUMBERS 3, 4, 29, 30, 53 AND 54.

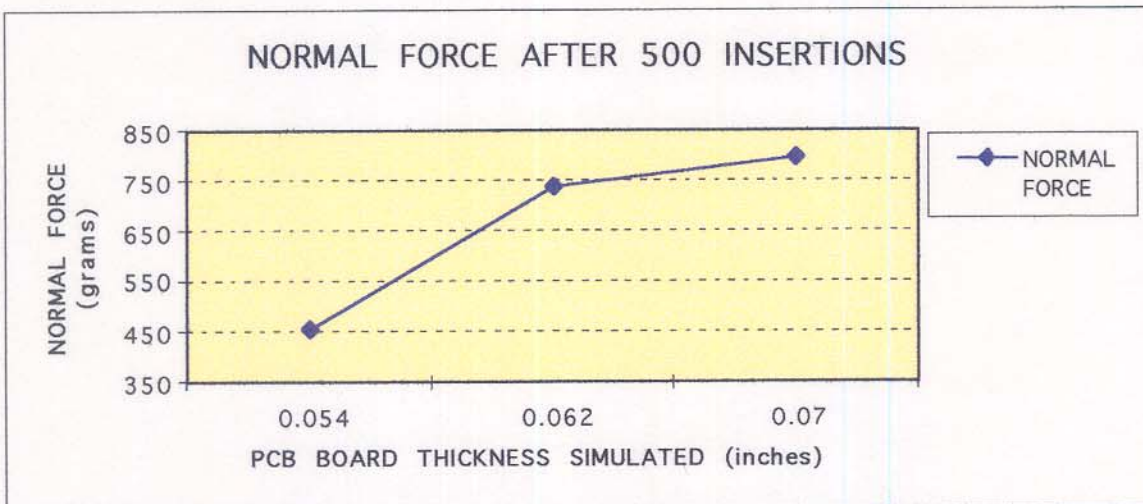


*Sullins Electronics Corp.*

801 E. Mission Rd.  
San Marcos, Ca. 92069



\*\* GOLD THICKNESS MEASURED ON CONTACT NUMBERS 34, 36, 38, 42, 44 AND 47.



*Sullins Electronics Corp.*  
801 E. Mission Rd.  
San Marcos, Ca. 92069

## EQUIPMENT LIST

| <u>NAME</u>                      | <u>BRAND AND MODEL</u>           |
|----------------------------------|----------------------------------|
| 1. DC POWER SUPPLY               | HEWLETT PACKARD MPB MODEL 6282 A |
| 2. DIGITAL MULTIMETER            | KEITHLY 177 MICROVOLT DMM        |
| 3. PCB AUTO INSERTION<br>MACHINE | SULLINS ELECTRONICS CORP.        |
| 4. PUSH-PULL FORCE<br>GAUGE      | JOHN CHATILLON & SONS MODEL DPP  |
| 5. X-RAY FLUORESCENCE<br>MACHINE | TWIN CITIES INT. TWINTEST XRF    |



*Sullins Electronics Corp.*

801 E. Mission Rd.  
San Marcos, Ca. 92069